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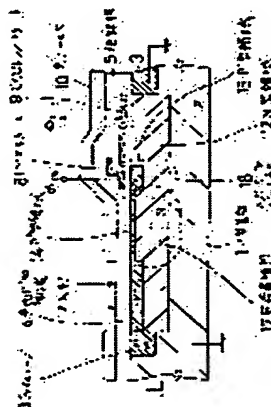
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(54) SOLID STATE IMAGE SENSOR

(57)Abstract:

PURPOSE: To smoothly move charge and to prevent an after image from generating by providing a buried channel type in which not only a photoelectric converter but a charge storage unit are depleted, and passing signal charge at a position deeper than the surface of semiconductor.

CONSTITUTION: An N-type region 12 is formed over a photoelectric converter, a charge storage unit 17, a transfer gate 18 and a CCD. A P+ type region 14 having a P-N junction at a position shallower than a surface P+ type region 4 on the photoelectric converter by connecting to the region 4 is formed on the surface of a substrate 1 of the unit 17. A P- type region 15 is formed on a substrate surface under a transfer gate 8 is formed at the gate 18. The N-type regions of these regions are all depleted, and a part having a lowest potential is present in the substrate. The depth of the potential well of the unit 17 is set deeper than that of the converter. Thus, the movement of the charge is smoothly conducted to prevent an after image from generating.



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